

CREDIT FOR THE COLUMBIA

IT BELONGS TO THE DESIGNER OF HEP MACHINERY.

CHIEF ENGINEER MELVILLE'S SPLENDID WORK—TRIPLE SCREWS AN UNKNOWN QUANTITY WHEN HE BEGAN HIS TASK.

Washington, Nov. 15 (Special).—The Columbia marks a distinct advance in American naval engineering, and in naval engineering generally, and owes her success to the genius of Engineer-in-Chief G. W. Melville, U. S. N., of the Bureau of Steam Engineering, under whose direction the designing of her machinery was done. When the estimates were made for the ship the speed fixed was twenty knots, but after the Naval Appropriation bill was passed it was found that in conference the speed had been raised to twenty-one knots—a very small matter to the non-professional mind. But when it is remembered that it requires about 6,000 more horsepower to obtain this additional knot, it is seen that the task set was not an easy one. This 6,000-horsepower is also sufficient to give a speed of fifteen knots or more, and yet so enormously does the resistance increase with increase of speed that it will only add one knot at the high rate of speed of twenty-one knots.

A gentleman who is thoroughly conversant with naval affairs, speaking to-day of the Columbia's performance, said:

"Mr. Melville decided that the ship should have from 20,000 to 21,000 horse-power, and at once began to lay out the engines and boilers. It soon became apparent that twin-screw engines would not do, because of their size and the fact that they would be very extravagant in the use of steam at the ordinary cruising speed. Besides this, the space that could be given up to machinery was restricted, and would not be satisfactory for twin-screw engines. Mr. Melville decided almost immediately that triple-screw engines were the only ones that would do, and at once set about the preliminary design. With that caution which has marked his every design, he instituted inquiries about what foreign governments were doing in this line. He knew that the French had, years before, made experiments with a small, but excellent, triple-screw ship, and that the Italians had tried three screws with questionable success in the Tripoli, a torpedo gunboat of 740 tons displacement; but there was no record of any on a large scale, nothing approaching what he had outlined.

The annual of the Office of Naval Intelligence, usually so accurate about data of foreign ships, had stated in 1888 and again in 1889 that the French were building the Dupuy de Lôme with three screws, but subsequent inquiries of that office showed that the naval attaché at Paris had recently reported that she was to have only two screws. Of the Kaiserin Augusta, the German triple-screw ship which took part in the Naval Review last May, the department was in absolute ignorance. No information about her had been received, although we had an attaché at Berlin; in fact, we didn't know that such a ship was in course of construction, and it was only last year that the Naval Annual, by Louis Brasseur, made any mention of her. The ship, so far as precedents went, Engineer-in-Chief Melville had none, but he determined to stake his reputation on her, and on the Columbia's triple screws, and with that indomitable energy which so characterizes his every action he started in to make the design the best possible.

Through the course of her construction he has watched the machinery carefully, and the success which she has achieved marks a new era in marine propulsion, and stamps the engineer-in-chief of our Navy as a man not only abreast of the times, but ahead of them, and adds one more to the long list of successful designs which have emanated from the Bureau of Steam Engineering.

To appreciate the merits of these designs it should be borne in mind that the trials of British ships are seldom successful. At the first trial the machine is so racked that they fail to run at anything like full power again. An illustration will suffice: The Blake, flagship of the British squadron which participated in the Naval Review last May, was designed for twenty knots, but in the trials she made only twenty knots, and for twenty-two knots, with 20,000 horse-power, under forced draught. The ship had so much trouble with her boilers that the Admiralty decided that it would not be safe to run her at the maximum power out of the Blake, and she was accordingly run under mild forced draught, when she developed 20,000 horse-power, but at 20,000 horse-power she made only twenty knots, and this was more than 17,000. The Columbia, designed for twenty-one knots, with 20,000 horse-power, has made over twenty-one knots.

"The country is to be congratulated no less upon possessing such a superb ship as the Columbia, than upon having such a head of its Engineering Bureau such a skillful designer of machinery as Engineer-in-Chief Melville."

WORK OF THE LIFE-SAVING SERVICE.

ANNUAL REPORT OF SUPERINTENDING KIMBALL.

—SCOPE OF THE WORK.

Washington, Nov. 15.—Sumner T. Kimball, general superintendent of the Life-Saving Service, in his annual report to the Secretary of the Treasury, has set forth the work of the last fiscal year. The establishment embraced 24 stations, 182 being on the Atlantic, forty-nine on the lakes, twelve on the Pacific and one at the Falls of the Ohio, Louisville, Ky. The number of disasters to documented vessels within the field of the operations of the service during the year was 477. There were 3,542 persons saved, and 3,565 persons rescued. Six hundred and sixty-three ships were saved, and 1,214 persons rescued. The estimated value of the vessels involved in the disasters was \$6,445,000, and that of their cargoes \$1,684,000, making a total value of property imperiled of \$8,129,000. Of this amount \$4,425,000 was saved, and \$3,704,000 was lost. In addition to the foregoing there were during the year 131 casualties, on small craft, and 1,214 persons rescued. The property involved in these disasters was \$1,214,000, and the cargo \$1,214,000. The service rendered in saving vessels and cargoes was greater than in any previous year. The cost of the service during the year was \$2,214,000.

Statistics of foreign trade.

OCTOBER MAKES A BETTER PROPORTIONATE

SHOWING THAN THE FIRST TEN MONTHS

OF THE YEAR.

Washington, Nov. 15.—The Bureau of Statistics, Treasury Department, this evening gave out for publication the advance statement of the imports and exports of merchandise and gold and silver for the month of October, 1893. The exports of domestic merchandise were valued at \$5,932,832, as compared with \$5,215,420 in October, 1892, a decrease in value of \$717,412, being \$1,727,003 in October, 1892, and \$1,011,338 in 1891. The increased export of foreign merchandise nearly made good the decreased export of domestic merchandise, bringing the total for October, 1893, to \$7,565,815, as compared with \$7,801,519 in 1892, the difference in favor of the latter being \$235,704. Imports of merchandise show a great falling off, being \$4,512,641,782 in October, 1893, as compared with \$4,782,041,782 in the corresponding period of the previous year, the difference being \$270,259. The exports of foreign goods, on the other hand, were \$2,861,389, and in October, 1892, \$2,854,622.

If the exports add imports for the ten months ending October 31, in the two years the taken the conditions are very different. There being a much less excess of exports in 1893 than in 1892, \$1,935,724.

What is Drudgery?

Housekeeping GOLD DUST

without Washing Powder.

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